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The Typhoid state of Bilious Fever

by

John Haywood

of

North Carolina

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to the President of the United States

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*The Typhoid state of Relaxed Fever*

The following essay will be confined to the description and treatment of the disease, as it annually appears every summer and autumn, in the eastern counties of the State of North Carolina.

It has been selected by the writer, because the disease more frequently than any other of equal danger, has come under his observation, has been often a subject of meditation, and because, the task of writing is calculated to render him, more intimately acquainted with the nature and treatment of it, and its kindred fevers; thereby, the better qualifying <sup>him</sup> hereafter to subdue the enemies, to which by his location, he will most probably be exposed.

The disease is that termination of Intermitents and Remittents or Continued fever, which is usually denominated, especially in popular language, the Nervous or Typhoid Fever; neither of which terms, however, seems applicable: the first, being expressive of a symptom that often exists, but is likewise often absent: the latter, is  
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applied to a distinct disease, arising from different causes, and with which, it is therefore improper, this should be confounded.

When Intermittents are suffered to go on uninterruptedly, where evacuations are only sparingly used in the commencement, or, where the disease is obstinate in its character, or receives increased vigour from the predisposing cause that first produced <sup>it</sup>, then, we have, as a consequence of this neglect, mismanagement, or resist-  
less power of the morbid cause, a continued form of fever, sometimes of the Bilious Inflammatory type; and again, without the intervention of this form, frequently all the symptoms of a Typhoid condition are at once developed. The Bilious Remittent fever, whether the original disease, or a termination of Intermittents, for the reasons just mentioned, will sometimes end in the same manner.

The period, at which, an Intermittent or Bilious fever will degenerate into a Typhoid state, it is difficult to prognosticate, but generally, I believe, the change may

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may be perceived on some one of the established days of crisis. It may be known to have taken place by a cessation of all intermissions, or by much diminished remissions. The pulse, that ~~was~~ was full, hard, or chorded during an exacerbation, now continues with little variation throughout the day, quick, feeble, and often irregular; or, according to Doct. Jackson, "that which was tumultuous, hard, and contracted, sluggish and obscure, during the early stage of the disease, at this time often becomes slow, soft, full, and regular, so as to be distinguished with difficulty by the experienced from the pulse of a person in health." The burning heat of the skin is no longer present, but it sometimes becomes moist with unnatural perspiration, at times, "emitting a disagreeable odour, resembling the smell of a fish market." It is often thicker and more compact, the colour changing to a faint dull yellow, though, entirely different from the jaundiced skin. Doct. Jackson, while speaking of the fevers of the West Indies, says, that "the eye becomes calm, clear and bright" at the commencement of the "Retrograde course," the  
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name given by him to the Typhoid state. The countenance loses its natural vivacity of expression, which is sometimes retained until this period, and always undergoes a considerable attenuation, that will forever be recognized, by one who has once beheld it, yet admits of no clear and circumstantial description. The vomiting of dark and green Bile, copious and discharging in the first periods of the disease, no longer continues, and the stomach, comparatively remains quiescent. The patient expresses no inclination for food, and his clamours for drink, are hushed. The tongue, heretofore, covered with a white and yellow fur, varies its aspect to a hue of mixed dark and yellow. The disease advancing, the tongue and mouth are lined with black scud, as in genuine Typhus, and the breath is always highly offensive. The bowels, coctive in the original disease, experience no relief from the revolution going on in the system, torpor, still stands as a fortification of disease, unchanged by the vicissitudes of its action, and many times, impugnable to the most powerful  
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and most skillfully concerted bombardment of the Physician. When, by the force of our remedies, we obtain alvine discharges, they are small in quantity and of a dark colour, much resembling as has been happily said "Tar or molasses"; but should we succeed in removing the unsusceptible state of the Intestines to impurities, then these matters are eliminated in prodigious and astonishing quantities. Muscular power, only gradually declining, or occasionally receiving increased vigour from the exacerbations of the preceding fever, at this stage, rapidly sinks to a state of prostration, and debility is conspicuous in every movement of the patient. The intellectual faculties are preserved much more entire, than they are in genuine typhus, and it is only in the last hours of the disease, that low delirium supervenes.

When we reflect on the symptoms, which the disease, in its changed constitution, presents, we cannot be at a loss to pronounce, what alterations in the system, that change has induced. The fever at  
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one time, bold and energetic, hurried on every action of the body; speed was given to the blood in all its vessels, and heat generated profusely; but now the picture is reversed — the circulation is languid, the superficies cold and shrivelled and every thing denotes a tendency in the system, to resolve itself, from an organized, into an inorganic mass.

This condition appears to be owing to a desertion of the blood from the surface, to its more internal vessels, and is produced, by the cause of the disease, first, acting as a morbid stimulant on the stomach, which accordingly produces all the phenomena of stimulation; but the morbid agent, after a few days, involves this, and the contiguous organs, in disease, and then, as a consequence, an afflux of the fluids takes place to the parts, as in common inflammation from other causes and in other parts, hence, the engorged state of the abdominal viscera, which has been often observed in dysentery. This may be termed an engorgement of the  
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capillaries of the internal organs, but doubtless a venous congestion, also exists, and is produced by an inability of the heart to force the blood to the minute and distant vessels, added to a feebleness of the arterial and capillary systems; this state of muscular debility is occasioned by the previous excitement. I am aware that the premises, on which my reasoning is erected, are denied; that by many, the cause of Fever is considered directly sedative; and, that the stomach, but by few authors, is thought to receive the poison of the disease. It is, however, repugnant to the present dogmas of the schools, to denominate any of our medicines sedative, and we have the high authority of Proffers, Ross and Caldwell, for the assertion, that in all nature, no individual of such a class can be found. That the Alimentary canal, receives the first germ of the disease, first suffers its spoliation, and in its whole course, continues eminently deranged in every function, for proof, I need only revert to the  
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symptoms, and for confirmation, to the simple and  
 forcible manner in which the opinion is taught  
 and enforced by the American Pathologist of Fever,  
 Prof. Chapman. The symptoms, which warrant such  
 a belief, are; the fact, that the first deviation from  
 health is almost invariably, a derangement of the sto-  
 mach, preceding, and from the known sympathies  
 of the organ capable of creating, the disturbance  
 in the circulation; the obstinate constipation of the bowels;  
 and the nature of the discharges when procured:  
 these, have been partially described while detailing the  
 symptoms, and it only remains for me now, in  
 support of the opinions advanced, to ascertain their  
 nature, and from whence they proceed. It is a  
 popular opinion, that they are a vitiated secretion  
 of the liver, and even some physicians embrace  
 the same view, but perhaps, a more rational ~~mode~~  
 mode of accounting for them, will be found in  
 the supposition, that they are a morbid secretion of  
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supposition is rendered almost a demonstrable fact, if we can believe an author, whose general correctness remains unquestioned, I allude, to Doct. Jackson, who says, that he has found the tar coloured matter in the mouths of ducts - not blood vessels, emptying into the colon, and he afterwards observed the same thing in the stomach and other parts of the canal: thus we find the secretion of the mucous membrane of these parts, altered by some efficient agent, and as it is always changed by the inflammatory process in other parts of the body, the inference is fair, that the same cause produces it here. But the disease is not confined to the stomach and intestines, for it sometimes involves the other chylific viscera. To be convinced, that the biliary apparatus is much altered in its nature and functions we have only to recollect, the character of the Bile ejected from the stomach during the early stages, and observe, the terminations of the disease: the patient may be snatched from a yawning grave  
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that opens to receive him, frequently however, even after convalescence is apparently established, we behold him the suffering victim of a chronic inflammation of the Liver, loudly proclaiming, the burden that organ had to bear in the previous jeopardy.

Called to a patient in this stage of Fever, we have little difficulty to distinguish the disease from all others. Although it may bear a close resemblance, in many of its symptoms, to genuine Typhus, yet, by consulting the causes which produced it; the season of the year at which it occurs, this in warm an Typhus in cold weather; and by learning the history of the disease, we must arrive at the inevitable conclusion of its true character.

The degree of danger is always eminent, and proportionably more so, as the symptoms enumerated show themselves in more aggravated forms. Where the pulse is very frequent, hobbling, intermitting, or fluttering; where "Respiration is laborious with a  
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sense of stricture or a desire to expand the chest without the power of effecting it, and without restraint in doing so from a sense of local pain or impediment;" and, where the skin is materially altered from a state of health, especially when greatly thickened; an unfavourable issue may be anticipated, and our Prognosis should be so declared, if circumstances render a prediction necessary. When the borders of the tongue, become extensive and black, when the tongue itself, is difficultly thrust from the mouth, trembling and quivering, when the patient only opens <sup>his</sup> mouth when told to shew his ~~tongue~~ and can not protrude it, and more especially if it inclines much to one side at the time an attempt is made to put it out; or if he is unable to maintain his position on the pillow and slides to the lower part of the bed, inasmuch, as all these symptoms denote great muscular debility, the prospect of recovery is slight and nothing but the most active exertions can possibly preserve our patient; but when to these symptoms

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rigidity of any muscle be added then perhaps there is no chance of recovery. The truth of these remarks, I frequently saw verified, in the practice of the Alms House, during the last summer, and to the very instructing, clinical lectures of Doct. J. H. Mitchell, I owe much of what has been said. We may rank as <sup>an</sup> unfavourable symptom, much want of susceptibility to ordinary impressions—such as the constantly dilated pupil, deafness, diminished sense of touch, absence of thirst although the mouth may be parched and dry, where the bowels remain unmoved by the most active cathartics, the pulse uninfluenced by the strongest stimulants, and the surface insensible to the operation of either blisters or rubefacients. The case may be considered of a most critical nature, tending to a speedy and fatal termination, if the patient is prone to constant sleep, and when roused, awakes in a state of low delirium, picks at the bed clothes, and catches at—

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at imaginary objects; and also, as Doct Jackson correctly remarks, "undue confidence, philosophical firmness, or Stoical indifference is almost always a certain sign of death". Should the bowels give way to our purgatives, and the discharges of tar coloured matter become copious and free, a recovery may be reasonably expected; but if the discharges are small in quantity and reluctantly yielded, then, we are to dread the contrary result: and for them to resemble a number of small, dark seeds, suspended in a thick and black fluid, is, what I conceive to be, one of the most unerring symptoms of early dissolution. This granulated appearance of the stools, was first pointed out to me in the summer of 1822, by Doct. Mosely of N. Carolina, a respectable practitioner of ten years experience in the disease, who informed me, that in no one instance had he known recovery to ensue after it was observed, and the future cases, which fell within the limited

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limited sphere of my observation during the same season fully confirmed his statement.

When the debility is not very great, or is diminished by our evacuations, where the pulse is sensible of stimulation, and the surface easily and freely affected by blisters, more especially if they induce strangury, and finally, when many of the untoward symptoms are wanting, we may by proper management, close attention, and a skilful application of judicious means, have the happiness of effecting a cure—this is the desirable object, for the attainment of which, it now devolves on us to detail the means.

The disease, wearing as may be inferred from its name, a close resemblance to genuine Typhus, is in many respects to be treated in the same manner; the emetic, blood letting, and cold applications, recommended in some stages of that fever, would be however entirely incompatible in the present instance. The symptoms

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symptoms and nature of the disease, clearly and satisfactorily point out, three different indications of cure: first, to relieve the chylific viscera of the noxious matters with which, they are oppressed, remove the torpor of the intestines, and convert the morbid secretions of their mucous coat into a natural and healthy condition; secondly, to restore the surface to the vigorous performance of its proper functions in the animal economy; thirdly and lastly, to counteract debility.

The active fulfilment of these several indications, constitutes the only permanent foundation on which, our hopes of success can repose, and the neglect of any one of them, will almost as a consequence, ensure a fatal catastrophe. The efforts of nature to reestablish her dominion, are very feeble or entirely wanting, and he, that can remember at such a moment, the Arabian precept, to wait for nature's exertions, and only aid

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aid her as she points the way, should remember only to spurn it, as a doctrine, dangerous in every bearing, and utterly unworthy of regard in the present emergency. The indications, are not to be, as in many diseases, separately and successively answered, for while solely complying with the requisitions of one, from inattention to the others our patient may be lost; on the contrary, we are to delay nothing, keep no reserve, but boldly advance to the attack, and at once pour on the enemy the whole artillery of our art.

Our article of the *Materia Medica*, will so completely and effectually fulfil the first indication, as the free and nearly unreserved use of Calomel. In vain, I believe, may we look for an equivalent to this medicine, but happily for humanity the search is unnecessary; the groundless fear of mischievous effects entertained by Physicians, for a long time after its introduction

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introduction into practice, has been supplanted by a species of confidence and praise nearly devotional. Calomel may be so exhibited as to evacuate the bowels and dislodge their acid contents, and what is unquestionably of the utmost importance, without exhausting the little remaining strength of the patient, by profuse, watery discharges, like most of the other effluent purgatives. Within my own scanty experience, I have seen the Sulphates of Magnesia and Soda, Salap, Senna &c. only produce copious evacuations of an aqueous nature, perceptibly debilitating the patient, when Calomel exhibited before and after them, brought off almost unmixed, immense quantities of dark and foetid discharges. It is an admitted fact that its recuperative powers are unrivaled in the various affections of the liver, and by a liberal use of it in every stage of the disease, doubtless many of the disorders of that viscus, so often sequelae of

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of fever, would be, and are prevented. To produce these effects, I would first give it in such quantities as to open the bowels, and then continue its administration in divided doses of three or four grains, three times a day, or in greater or less quantities, as may be necessary to keep up the purgation until the stools are brought to a healthy appearance. Calomel given in this way seems to change the morbid state of the mucous membrane of the alimentary tube, and its secretion becomes natural. The requisite portion to open the passages, and keep up the evacuation, is sometimes very great, and I have myself seen as much as, Ziss given in the course of forty eight hours produce the happiest effect. This is a most liberal use of the article, and to some may appear an abuse, but the unanimity of practitioners in its adoption, who are most conversant with the disease, is a strong

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strong proof of the propriety of the practice; and although in a healthy condition of the system, five or six grains may produce the same effect as eighty, yet, it does not seem inconsistent, a priori, to believe, when the bowels are oppressed by an unnatural accumulation and their excitability greatly altered, that this rule should not hold good, and from several old and excellent practitioners I have the fact, that large doses in the disease under consideration are much more beneficial than small ones, indeed, their experience proves the usual quantities to be entirely inadequate. The proper quantity, however, varies in every case, and the only correct guide for our government, is to persist in its administration, until we obtain the end, for which it was exhibited. When the operation is very imperfect, often a simple enema of warm gruel thrown up the rectum, will expedite and render  
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I would ~~not~~ resort. Such are the means, that I would resort to, in the fulfilment of the first indication, but even the propriety of purging actively at all, in a very similar state of the system, was denied or unthought of, until the invaluable work of Doct. Hamilton made known its utility; since which time, the practice has been adopted and fully confirmed by most of the eminent authorities on the subject.

However, in the precise condition of continued fever, now under consideration, the learned Professor of the Practice of Medicine, in the University of New York, in an appendix to Thomas' Practice, condemning in strong terms the advice of Hamilton, unhesitatingly denies the propriety of active cathartics. He says "evacuations from the bowels are not to be obtained at the expense of the powers of the whole system, which the means recommended by Doct. Hamilton

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Hamilton are calculated to produce: on the contrary at this advanced period of Fever, we should just as readily think of putting a lancet into the patient's arm, as emptying his bowels by the active purges he has directed: these, too, with other means of depletion, as far as they may have been indicated, it is presumed have been already attended to." With the utmost deference to the authority of my distinguished countryman, it is with diffidence that an endeavour is made to controvert this precept. The presumption that evacuations have been previously used, and carried to a sufficient extent, is by no means a fair one, for, it is a fact, which the attestations of all southern practitioners will support, that, when they have been resorted to early, and pushed to the necessary extent in common Bilious Fever, the Typhoid state rarely or ever supervenes; and in the section of country designated at the beginning of this essay, the Physician  
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often finds his patient, on the first visit, with all the symptoms, denominated by Doct. Hosack, to be those of Typhoid Fever; the first stage of the disease having passed away, without the smallest assistance from medicine. The danger of wasting the excitability of the system, which Doct. Hosack so much apprehends by the administration of purges, surely, is nothing but a visionary result of his own theoretical views. The stomach and intestines, the primary seat of the disease, deranged in every function, and as it were, engorged with the foul secretion of the mucous tissue — are we to be satisfied, with "enemata or at most, the occasional use of Rhubarb and Magnesia"? because, forsooth, the patient has a diminutive pulse and impaired muscular power! That, the thorough evacuation of the intestinal tube, will remove this very condition, we have the high authority of Hamilton, and the sanction of the present

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Professor of the Theory and Practice of Medicine in this University, who says, "nothing is now better established, than, that when the alimentary canal is oppressed with accumulations of feculent matter, the evacuation of this matter relieves the system and adds vigour to the body"; and this position is sustained by the unanimous voice and invariable practice of those, who live in parts of our country most exposed to the ravages of the disease.

We do not, however, rely solely on purgatives, but at the same time support the system, with the remedies calculated to fulfil the second and third indications, and it will not be difficult to select such, or so combine others, as to accomplish both objects at once. For this purpose, many of the stimulating Diaphoretics, would answer perhaps extremely well, but having seen the Camphorated Sulep united with the acetate of Ammonia, in equal parts, frequently prove  
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highly beneficial, I should be induced to select them, as medicines worthy of my confidence: a table spoonfull of the mixture to be given every two or three hours, or oftener if the skin remain unaltered, and the pulse continue the same. Generally this will materially contribute to bring the blood from the centre to the circumference, acting in concert with Blisters, which are now to be applied to each of the extremities, and one over the Epigastric region: these by the irritation which they excite, cause a revulsion to the part, of the circulating fluid, and sometimes by the substitution of a new, expel the diseased action, according to the general rule, first laid down by John Hunter, that no two diseases can exist at the same time; or in other words, the system receives a powerful impetus, or shock, from the remedy, which severs the concatenation  
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of disease, precisely in the same manner, that the recurrence of a rigor is prevented by a large dose of Opium, Ether, or any other stimulant, given a few minutes before the expected time of an attack. The indication of counteracting debility, is also answered by our remedies. Camphor, certainly, as daily experience evinces, and the highest medical authorities aver, is a stimulant of no shallow pretensions: by its administration the pulse is rendered more regular and full, stronger and less frequent: that vesicatories possess the same property, without appealing to the masters of our art for confirmation, may be proved by the fact, that in country places, distant from a regular Physician, the heads of families by the application of a Blister often preserve the life of an inmate, a child, or companion, when the system is in a sinking condition, and the last effort of vitality, the  
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only lingering spark of existence. By experience this remedy is rendered familiar to them.

We ought not however to be satisfied with merely ordering our remedies, but must studiously attend to the effects which they produce. If the pulse continue feeble and intermitting, give the mixture at much shorter intervals than has been intimated, every thirty minutes if necessary to excite the circulation; or call to its aid other stimulants, such as Ether, Wine, Brandy &c; and what is of signal advantage, alternate the Camphorated with the Volatile Sulep; the stomach after a day or two, may become accustomed to the presence of the former, and no longer susceptible of curative impressions from it, then by alternating another established stimulant, this condition is removed, and the benefit originally derived, again experienced. The patient may be so far  
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exhausted, that the vesicatory applications will produce little or no effect, then we resort to Rubefacients, such as decoctions of Cayenne Pepper in Brandy, Cantharides in Oil of Turpentine &c.; the surface to be rubbed with them by pieces of Flannel until an universal glow is induced. The application of Sinapisms over the stomach and to the soles of the feet, will also be of service. After this plan of treatment restores the patient to that degree of excitement, at which our former remedies will have their usual effects, then we should recur to them, and particularly, maintain the determination to the surface, by the more permanent irritation of Blisters.

When this course of treatment has been persisted in for a few days, we often are gratified by beholding a subsidence of the more dangerous symptoms; the face changing to their natural colour

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colour, foulness of the mouth and tongue giving place to an ordinary condition, and the surface moderately warm and moist. The Calomel ought now to be omitted, and we must substitute for our stimulant diaphoretics, those of a tonic description: an Infusion of Serpentina and Colombo may be very appropriately introduced. The liberal use of this medicine, at the present stage, will eminently conduce to a speedy convalescence. It keeps up a moderate moisture of the skin, and gives tone to the delicate and enfeebled stomach, guarding against a relapse, and soliciting a return of appetite. It is to be preferred to the Peruvian Bark, because it is less apt to occasion constipation, than that medicine; but when the patient arrives at a state of convalescence, then the Bark may be exhibited to establish and confirm the cure. Attention should be paid to the bowels during recovery.

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renewing, and if constipation ensues, let it be  
 obviated by some mild aperient, as Magnesia  
 or Rhubarb: the latter, is perhaps preferable  
 to all others from the tonic power, which  
 it possesses. Active cathartics are to be avoided  
 at this time, as tending to impair the recuper-  
 ative powers of nature, which are now  
 properly directed. If Diarrhoea comes on,  
 check it, by Opium and the use of the Cin-  
 chona. The patient while recovering, is  
 sometimes harassed by restlessness and the  
 want of sleep. When this happens, a grain  
 or two of Opium should always be given  
 at bed time

With regard to Diet, it may be said, dur-  
 ing the alarming stage of the disease, that  
 the patient will be desirous of nothing, and  
 nothing is requisite; but when the appetite  
 begins to return, it is of the highest im-  
 portance, to guard against its dictates, for  
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nothing is better adapted to produce a relapse, than improper food. The stomach feeble to an extreme, is incapable of digesting any, but the most mild and nutritive articles. We should at first restrict our patient to Arrow Root, Barley, Sago, Rice, Milk &c., and gradually restore him to his usual diet, by the intervention of the milder kinds of animal substances, such as, Eggs, Oysters, Chicken and the like.

Recovery may be accelerated by moderate exercise in a carriage, but we must be cautious of creating fatigue. The patient ought to be prevented from engaging too early in his usual avocations, and an exposure to cold or heat and night air should be avoided.

